

## PROCEEDINGS OF THE NEW YORK ENTOMOLOGICAL SOCIETY

MEETING OF OCTOBER 6, 1959

Minutes not available for this meeting.

MEETING OF OCTOBER 20, 1959

President Shoumatoff called the meeting to order at 8:05 P.M. in Room 129 of the American Museum of Natural History. The 15 members and two guests present were welcomed by him. The minutes of the previous meeting were approved as read. Under miscellaneous business the President commented upon the two New York State constitutional amendments which are to be voted upon on Election Day. Dr. Lucy Clausen, our delegate to the N. Y. Academy of Sciences, reported that for some time now our Society, and similar ones affiliated with the Academy, carry no weight in the discussions at their business meetings. Mr. Frank Soraci, the Editor, stated that the last two parts of the current volume would be combined into a single issue and this will bring the JOURNAL up to date. Mr. Lucien Pohl noted that the albatross is in danger of becoming extinct because of the great number of collisions with airplanes. President Shoumatoff mentioned that an adult member must be present at all Junior Society meetings. He also announced that the new book by Dr. and Mrs. Alexander Klots **Living Insects of the World**, is now available.

The program of the evening, devoted to the members' summer activities, was started by Robert Bloch who showed a sweater knitted by his wife which had an insect design; the insects were all made in proportion to their actual sizes. Three members had made foreign tours; Peter Dix and Lucien Pohl to Europe and Mrs. P. Vaurie to Mexico. These were reported by descriptions and some colored slides. Lucy Clausen had some ichneumonids under observation; J. Huberman, commenting on insect control within the city, stated that the organic phosphates were still doing a better job than the newer insecticides; E. W. Teale enjoyed his new home and insect garden in Hampton, Conn.; N. Shoumatoff toured the west as did the Klotses and brief descriptions of these trips were illustrated with a few colored slides. B. Heineman spent some time in the 1000 Islands and reported that the Monarch butterfly was scarce this year. However, his light trap collections were rewarding and much of this material he turned over to the Museum. R. Brush stated that some of the moths he collected this summer at Candlewood Lake in Conn. had been donated to the Museum. Miss White visited some of the western national parks and was enthusiastic about the assistance rendered by the rangers.

The President reminded the members that the first Tuesday in November is Election Day and, thus, there will be no meeting. The meeting adjourned at 10:15 P.M.

ROBERT G. BLOCH, *Secretary*

## MEETING OF NOVEMBER 17, 1959

At 8:15 P.M. the President called the meeting to order in Room 129 of the American Museum of Natural History and welcomed the 14 members and eight guests present. The reading of the minutes of the previous meeting was postponed because of the absence of our Secretary. Mr. Soraci, the Editor, announced that the last part of the 1959 volume is in the hands of the printer and that this will be distributed in December; making it current. Mrs. Lilli Mautner was proposed for membership by Mr. Brush. Mr. Shoumatoff appointed a Nominating Committee consisting of Doctors Klots, Treat, and Forbes. A vote of thanks was extended to Dr. Clausen and to Mr. Heineman who are retiring from this committee. Mrs. P. Vaurie sponsored the last two meetings of the Junior Society and reported on their activities. Mr. P. Dix offered to sponsor their next meeting.

Mr. Heineman then introduced the guest speaker, Mr. Eugene Eisenmann, whose subject was, "Carl Linnaeus—Founder of Scientific Classification." Mr. Eisenmann, an amateur naturalist, has done considerable research on Linnaeus. He gave interesting details of the life, the works, and the philosophy of Linnaeus. He traced the history of the *SYSTEMA NATURAE* through the 10th Edition. Using this reference, he keyed out a butterfly which was recognized by many present at *Papilio glaucus*. After a discussion period, the speaker was thanked for his fascinating discourse in which "he seemed to make the great man live for us."

The meeting adjourned at 10:00 P.M.

RAYMOND BRUSH, *Assist. Secretary*

## MEETING OF DECEMBER 1, 1959

President Shoumatoff called the meeting to order at 8:05 P.M. in Room 129 of the American Museum of Natural History. There were 25 members and 25 guests present; several of the guests were introduced by members. The minutes of the October 20th and November 17th meetings were read and approved. Mrs. Lilli Mautner was elected a member. Mr. Peter Dix said he will again sponsor the Junior Society's next meeting; he reported 15 were present at their last meeting.

Dr. Treat introduced the speaker of the evening, Dr. A. B. Klots and referred to him as the "Prince of Lepidopterists." He stated that what Audubon did for the birds, Klots is doing for the Lepidoptera; except that he is probably exceeding Audubon's works. Dr. Klots' talk entitled "Western Lepidoptera" was illustrated with many of his beautiful colored slides taken in the area chiefly around the Southwestern Research Station at Portal, Arizona. These included striking pictures of larval, pupal, and adult Lepidoptera.

The meeting adjourned at 10:05 P.M.

ROBERT G. BLOCH, *Secretary*

## MEETING OF DECEMBER 15, 1959

The President called the meeting to order at 8:10 P.M. in Room 129 of the American Museum of Natural History; the 15 members and five guests

present were greeted by him. The minutes of the previous meeting were approved as read.

The speaker of the evening, Dr. Kurt Gohla, Professor of German at Fordham University, was introduced by Dr. J. Forbes. Dr. Gohla is an avid, amateur lepidopterist and naturalist. His talk entitled, "The Trail of *Parnassius apollo* in German Literature and in Reality" considered first the writings of Gerhart Hauptmann and Friedrich Schnack dealing with Lepidoptera and with the butterfly *Parnassius apollo* in particular. In the second part of his talk Dr. Gohla told of his trip during the summer of 1958 to the resort town of Berchtesgaden in the Bavarian Alps and his experiences there in successfully obtaining some specimens of this butterfly which he had so long hoped to collect in the field. This is a relict, arctic species which has remained stranded in limestone outcroppings in the mountains as the ice sheets receded northward after the last ice-age.

The meeting adjourned at 9:50 P.M. after an interesting discussion period.

ROBERT G. BLOCH, *Secretary*

#### MEETING OF JANUARY 5, 1960

President Shoumatoff called the Annual Meeting to order at 8:10 P.M. in Room 129 of the American Museum of Natural History; 20 members and six guests were present. The minutes of the previous meeting were accepted as read. Reports of various committee chairmen were made; Dr. Klots for the Field Committee, Mr. Heineman for the Program Committee. The Treasurer was absent due to illness in his family and will give his report at a later meeting. Mr. Shoumatoff relinquished the chair to Dr. Forbes to have him receive the report of the Nominating Committee. The list of officers for 1960 was presented as follows:

President—Mr. Nicholas Shoumatoff

Vice-president—Mr. Bernard Heineman

Secretary—Mr. Raymond Brush

Assistant Secretary—Mr. Robert Bloch

Treasurer—Mr. Jacob Huberman

Assistant Treasurer—Mrs. Patricia Vaurie

Editor—Dr. William Creighton

Trustees—Mr. Herbert Schwarz, Mr. E. Irving Huntington, Dr. John Schmitt, Dr. A. B. Klots

Delegate, N. Y. Academy of Sciences—Dr. Lucy Clausen

There were no further nominations and the nominees as presented were elected.

Mr. Shoumatoff resumed the chairmanship of the meeting. He thanked the various officers, committees, and members for their support. He pointed out that the retiring Editor, Mr. Frank Soraci, had worked long and hard to bring the JOURNAL up to date and he was pleased to present him with a handsomely executed, parchment testimonial with the following inscription:

THE NEW YORK ENTOMOLOGICAL SOCIETY AT ITS ANNUAL MEETING JANUARY 5, 1960 PRESENTS TO FRANK A. SORACI THIS EXPRESSION OF APPRECIATION FOR HIS DEVOTED AND DISTINGUISHED SERVICE TO THE SOCIETY AS EDITOR, 1950-1959

Mr. Soraci accepted this to a rising vote of thanks. Mr. Shoumatoff reluctantly announced that new higher subscription rates for the JOURNAL would have to go into effect this coming year. The non-member subscription to be \$8.00 per year, member subscription to be \$5.00, and student membership subscription to be \$3.00 per year. The dues remain the same, \$4.00 for full and \$2.00 for student members. It was announced that Dr. Roman Vishniac had been elected a Fellow of the New York Academy of Sciences. Excerpts from the Book Review Column of THE NEW YORK TIMES was read complimenting the recent works of our fellow-member, Edwin Way Teale.

Mr. Shoumatoff gave the talk of the evening entitled, "Butterflies of Jamaica, British West Indies", illustrated with both slides and motion pictures. This was an account of an interesting field trip he took with his uncle, Dr. Andrei Avinoff, the renowned lepidopterist. We learned of the rare species caught and studied, heard some of the quaint Jamaican names and customs, and journeyed through beautiful mountains and valleys.

The meeting adjourned at 10:10 P.M.

RAYMOND BRUSH, *Secretary*

MEETING OF JANUARY 19, 1960

The meeting was called to order by Mr. Shoumatoff at 8:05 P.M. in Room 419 of the American Museum of Natural History; 17 members and 16 guests were present. The minutes of the Annual Meeting were accepted as read. Mr. Huberman, the Treasurer, in his belated report stated that there are 116 members, 204 subscriptions to the JOURNAL, and the bank balance as of December 31, 1959 is \$4337.62. Mr. Mark Indenbaum was elected to membership and the following persons were proposed for membership: Mrs. Harriet Brush, Mr. Roy Vonder Heyden, Mr. Louis J. Simon. A motion to suspend the By-Laws to permit the immediate voting on these proposals was carried and three new members were welcomed into the Society. Mr. Shoumatoff referred to a letter which he had had mimeographed concerning a drive for new members. These letters will be mailed to teachers, students, and institutions likely to be interested in our Society.

Mr. Bernard Heineman introduced the speakers of the evening, Mr. and Mrs. Phillip Bergh. He said that although not entomologists nor scientists, they are an extraordinary couple with a great interest in natural history. Mr. Bergh is employed by the U. S. Rubber Corp. and Mrs. Bergh, presently a housewife, was a teacher at Skidmore College and Pratt Institute. Their talk, "Play of Time on Form and Color", was illustrated with expertly made pictures all taken in and around their home at Little Neck, Queens, N.Y.C.. These highlighted the life history of the Polyphemus moth, the Black Swal-

lowtail butterfly, the *Cecropia* moth, the Leopard moth, the silk-worm, horned worms, cicadas, and other insects in various stages of their development. After their talk the discussion centered on photographic techniques and technical phases of the pictures.

The meeting adjourned at 10:10 P.M.

RAYMOND BRUSH, *Secretary*

#### MEETING OF FEBRUARY 2, 1960

In the absence of the President, the meeting was called to order by Mr. Heineman, the Vice-president, at 8:10 P.M. in Room 129 of the American Museum of Natural History; 14 members and eight guests were present. The minutes of the previous meeting were accepted as corrected. Some of the visitors were introduced by members; Mr. Teres of the Brooklyn Entomological Society; Mr. Goray, Mr. LaMell, and Mr. Borg who are students at Rutgers University; Mr. Brassel of Fordham College; and Mr. Schweitzer of Columbia College.

Dr. William S. Creighton, the speaker of the evening, was introduced by Dr. A. B. Klots. He referred to their many years of association, told of Dr. Creighton's varied experiences in the taxonomy, the ecology, and the behavior of ants, and of the assistance Mrs. Creighton gives in this extensive fieldwork. Dr. Creighton discussed "Behavior of *Pheidole militiceida* in the Winter Months." This study was made at the Southwestern Research Station, Portal, Arizona. He told of his early difficulties in obtaining specimens of this ant. After trying all kinds of natural bait, Mrs. Creighton made the startling discovery that this species is most fond of French toast. He described their harvesting and storing habits, and their relationships to other species. His observations show that during the winter the major workers are not killed and, though taking no part in crushing the seeds of the foraging minors, they serve as guards. A lively and informative discussion followed the talk.

The meeting adjourned at 9:45 P.M.

RAYMOND BRUSH, *Secretary*

#### MEETING OF FEBRUARY 16, 1960

President Shoumatoff called the meeting to order in Room 129 of the American Museum of Natural History at 8:05 P.M.; 20 members and six guests were present. The minutes of the previous meeting were accepted as read. Doctors Treat and Klots were designated the official Society delegates to the 11th International Congress of Entomology to be held in Vienna, Austria this summer. Mr. Manlio A. Manzelli of Rutgers University was proposed for membership by Dr. J. Schmitt. Dr. Vishniac mentioned an article in THE NEW YORK TIMES regarding a termite problem in Venice, Italy. One of our guests, Mr. Schweitzer, then referred to an article he had noticed concerning termites in the Kremlin. Mr. Huberman, the Treasurer, announced he had just been notified of the death of two of our members although they had passed away some time ago. They were Dr. Charles L. Fluke, Jr. of the Department of Entomology, University of Wisconsin and Norman S. Easton of Fall River, Mass.

Mr. Shoumatoff introduced the speaker of the evening, Dr. John B. Schmitt, a Trustee of the Society and Professor of Entomology at Rutgers University. His talk entitled, "Studies in the Comparative Anatomy of the Insect Nervous System", was most interesting. During the discussion period Dr. Schmitt described some of his techniques in this research. (An abstract follows.) Dr. Treat was to have been a second speaker, but the projector broke-down and it was decided to postpone his talk until a future meeting.

The meeting adjourned at 9:50 P.M.

RAYMOND BRUSH, *Secretary*

## STUDIES IN THE COMPARATIVE ANATOMY OF THE INSECT NERVOUS SYSTEM

### Abstract

Homologies of insect segmental musculature have long been recognized, but no corresponding patterns of nerves have as yet been identified. Apart from the mechanical difficulty of tracing insect nerves to their muscle or integumentary terminals, efforts to recognize such patterns have been hampered by the problem of finding suitable criteria of nerve homologies.

As a first step in finding such criteria, the writer made a study of the nerve patterns in the pregenital segments of the abdomen in four families of Orthoptera. Assuming that the nerves of the dorsal longitudinal muscles, the ventral longitudinal muscles and the ocluser and the dilator of the spiracles are respectively homologous in each of these families, a segmental nerve pattern for the pregenital abdominal segments of the Orthoptera was deduced. The essential features of the pattern are these:

1. A "dorsal nerve" serving the dorsal longitudinal muscles and certain ventral and lateral muscles of the segment.
2. A "ventral nerve" serving certain other ventral and lateral muscles of the segment.
3. A branch of the dorsal nerve which connects with the transverse nerve of the unpaired or median nerve (the so-called ventral sympathetic system) thus forming a "loop".
4. A branch of this "loop" providing innervation of the spiracle muscles.
5. In addition in certain families such as Acrididae, Gryllidae and Blattidae, the "ventral nerve" is connected posteriorly to the "loop", thus forming a second loop.
6. In the Acrididae, a pair of very fine nerves lies parallel with the nerve cord and provides innervation to the ventral diaphragm. These nerves, called the "paramedian" nerves, are connected to both the transverse nerves and the dorsal nerves in each pregenital segment.

Comparison of these findings with the corresponding segmental nerves in *Chaulivdes* (Megaloptera), as described by Maki (1936) shows complete similarity in all items named above excepting item 5.

Libby (1959) made a similar study of the nerves and muscles of the second and third abdominal segments of the *Cecropia* larva. He found, despite the great proliferation of muscles in the caterpillar, a nerve pattern resembling

closely that of the cricket. He was thus able to apply the Orthopteroid pattern described above, to the nerves of the abdomen of the caterpillar.

Studies on the nerve pattern in the abdomen of the Plecoptera, not yet published, have revealed the general outlines of this same fundamental pattern. However, the ventral nerve is very weak in *Pteronarcys* or even absent in some segments, and there is a positional anomaly of the transverse nerves of segments 4, 5, 6 and 7 for which the writer has not yet found an explanation.

JOHN B. SCHMITT

### ABOUT OUR MEMBERS

**Dr. James Forbes** of the Fordham University Biological Laboratory has been awarded a National Science Foundation Grant for two years. His research will be a continuation of his studies on the anatomy and histology of male ants.

**President John B. Schmitt**, Professor of Entomology of Rutgers University is one of the authorities who has contributed to the Annual Review of Entomology, Volume 7, 1962. Dr. Schmitt's article of 20 pages reviews the highly specialized field of "The Comparative Anatomy of the Insect Nervous System."

Two of our members, both of Fordham University Biological Laboratories, were stricken with heart attacks this past academic year. At the end of last October **Dr. James Mullen**, formerly a Vice-President and member of the Publication Committee, was hospitalized. He was able to resume his duties at the beginning of the second semester. On March 18th, **Dr. Daniel Ludwig**, our Vice-President and Program Chairman was taken ill. The original diagnosis was influenza, followed by pneumonia. Later the illness was determined to have been accompanied by a heart attack. His "progress report" indicates a return to normal schedule in the fall.